



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/798,538

03/11/2004

Srinka Ghosh

10030803-1

6480

7590 10/08/2008
AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

CLOW, LORI A

ART UNIT

PAPER NUMBER

1631

MAIL DATE

DELIVERY MODE

10/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/798,538	Applicant(s) GHOSH, SRINKA	
	Examiner LORI A. CLOW	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1631

DETAILED ACTION

Applicants' response, filed 25 June 2008, has been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1-27 are currently pending and under examination herein. Claims 26 and 27 are newly added.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. This rejection is maintained from the previous Office Action and modified to include new claims 26 and 27, as well as a new grounds of rejection.

Claims 1, 12, 26, and 27 are drawn to a method for detecting a background intensity gradient within a microarray data set comprising such steps as computing convergence metrics, determining that a microarray data set exhibits background intensity, and outputting a numerical indication to one of a user, a display, a memory, or a computer. The recited methods fail to provide steps that include a physical transformation of matter or that produce a concrete, tangible, and useful result.

Art Unit: 1631

As stated in MPEP 2106, section IV, the claims will be evaluated for providing a practical application. A practical application is claimed if the claimed invention physically transforms an article or physical object to a different state or thing, or if the claimed invention otherwise produces a concrete, tangible, and useful result. In the instant case, a physical transformation of matter is not provided, as the instant claims merely provide steps of computation of features that are within a microarray data set. None of said steps result in a physical transformation of matter such that the whole of the claim is statutory.

Therefore, the claims must be evaluated for providing a practical application that produces a concrete, tangible and useful result. The focus is not on the steps taken to achieve a particular result, but rather the final result achieved by the claimed invention. A claim may be statutory where it recites a result that is concrete (i.e. reproducible), tangible (i.e. communicated to a user), and useful (i.e. a specific and substantial). In the instant case, the claims do not recite a tangible result such that it is useful to one skilled in the art. While the embodiments of the claim drawn to "outputting a numerical indication of the determined background intensity gradient to at least one of a user or a display" falls into a statutory category, the embodiments of "outputting a numerical indication of the determined background intensity gradient to at least one of a memory or a computer", do not provide a tangible result that is useful to one skilled in the art. Rather, those claim embodiments merely encompass *in silico* results with no specific output. The tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process claim must set forth a practical application of that 101 judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention

Art Unit: 1631

ineligible because no “substantial practical application.”). In the instant case, no real-world result is set forth.

It is noted that claims 11 and 19 are drawn to a “program” and that claim 20 is drawn to a “system”. In the instant claims the “program” and the “system” constitute nonfunctional descriptive material, as no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e. abstract ideas, stored in a computer-readable medium, in a computer, does not make the claims statutory. Further, data structures, as in a “program” are descriptive material, per se and are not statutory because they are not capable of causing a functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Computer programs are viewed as computer listings, per se, i.e., the description or expression of the programs, are not physical things. They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and the other claimed elements of a computer that permit that computer program’s functionality to be realized. Furthermore, while the claims may be directed to a product, per se, the computer system and program encompass method steps which are non-statutory and the method run by the products fails to produce a concrete, tangible and useful result.

In addition, claims 1, 12, 26, and 27 are non-statutory because they read on abstract ideas. The prohibition on patenting abstract ideas has two distinct aspects: (1) when an abstract concept has no claimed practical application, it is not patentable; (2) while an abstract concept may have a practical application, a claim reciting an algorithm or abstract idea can state statutory

Art Unit: 1631

subject matter only if it is embodied in, operates on, transforms, or otherwise is tied to another class of statutory subject matter under 35 U.S.C. §101 (i.e. a machine, manufacture, or composition of matter). (Gottschalk v. Benson, 409 U.S. 63, 175 USPQ 673, 1972).

Claims 1-10, 12-18, 26, and 27 are unpatentable because the **method** steps that are critical to the invention are "not limited to any particular apparatus or machinery." Claim limitations directed to obtaining or outputting data using an apparatus or machine are considered insignificant pre-solution and post-solution activity. This rejection could be overcome by amendment of the claims to require that critical limitations of the process: (1) are achieved using a particular machine, or (2) the process creates or involves a composition of matter or manufacture. (Gottschalk v. Benson, 409 U.S. 63, 175 USPQ 673, 1972). Reference to another category of invention ONLY in the preamble generally does not constitute a sufficient tie. The applicants are cautioned against introduction of new matter in an amendment.

Response to Applicant's Arguments

1. Applicant argues that the "Examiner's rejection of claims 1-25 fails to comply with the guidelines in the OG Notice". Specifically Applicant states that "the Examiner is required to 'determine whether [a claim] covers either a Sec. 101 judicial exception' and that only if such a determination is made, does the analysis then proceed to determine whether the claimed subject matter is nevertheless still patentable subject matter as a practical application of a Sec. 101 judicial exception". Applicant states that the "Examiner did not attempt to determine whether any or all of claims 1-25 cover a Section 101 judicial exception (Law of Nature, Natural Phenomenon, or an Abstract Idea)". Applicant asserts that "none of claims 1-25 is drawn to a

Art Unit: 1631

judicial exception because these claims do not cover laws of nature or natural phenomenon”.

Applicant then states that the claims are not drawn to an abstract idea, since microarray features and metrics computed therefrom are performed by a physical process”.

This is not persuasive. The Examiner determined that the claims covered a judicial exception, as the claims were drawn only to "computing" and "determining" steps. Therefore, the claims contain only abstract ideas. (A claim reciting only a musical composition, literary work, **compilation of data**, signal or legal document *per se* does not appear to be a process, machine, manufacture, or composition of matter. See *In re Nuijten*, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007) (slip. Op. at 18). In the instant case, that claims recite only compilation of data from the computation of convergence metrics that are performed on data that have been already gathered from a microarray data set. Contrary to Applicant's statement that "the claims are not drawn to an abstract idea, since microarray features and metrics computed therefrom are performed by a physical process”, the instant claims do not require a physical process, as the features and metrics are merely input values for the computation. Therefore, the claims are drawn to nothing more than abstract ideas (such a mathematical algorithms) and are not eligible for patent protection.

Conclusion

No claims are allowed.

The outstanding rejections under 35 USC 112, 2nd paragraph have been withdrawn in view of the claim amendments.

Art Unit: 1631

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

October 9, 2008

/Lori A. Clow, Ph.D./

Primary Examiner, Art Unit 1631